



TDW

PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/810,962
	Filing Date	03/26/2004
	First Named Inventor	Thomas Rueckes et al.
	Art Unit	2818
	Examiner Name	TBA
Total Number of Pages in This Submission	Attorney Docket Number	112020.145US2 NAN-21

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	- Postcard
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	Remarks 1. PTO Form (4 pgs.) 2. 31 Publications	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Wilmer Cutler Pickering Hale and Dorr LLP		
Signature			
Printed name	Michael A. Diener		
Date	3-25-05	Reg. No.	37,122

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name	Tina M. Dougal	Date	3-25-05

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



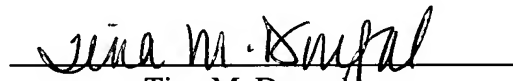
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: RUECKES, Thomas et al.
Application No.: 10/810,962 Examiner: TBA
Filed: March 26, 2004 Group Art Unit: 2818
For: **NRAM Bit Selectable Two-Device Nanotube Array**
Atty. Docket No.: 112020.145US2 NAN-21

CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on March 25, 2005.


Tina M. Dougal

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Applicants and their legal representatives hereby make of record on the attached Form PTO-1449 the following publications which are known to them and considered warranting disclosure under 37 C.F.R. §1.56 and 1.97-98.

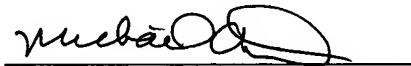
Copies of the publications listed on the attached Form PTO-1449, with the exception of the cited U.S. Patents and the U.S. published applications, are submitted herewith. It is respectfully requested that the Examiner initial and return a copy of the subject Form PTO-1449 with the next Patent Office communication.

The submission of these publications does not constitute a representation by the Applicants that a search has been made or that no better art exists and does not constitute an admission that the listed publications are material or constitute "prior art." Applicants reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed publications, should one or more of the publications be applied against the claims of the present application.

As this paper is being filed prior to the issuance of a first Office Action on the merits, and pursuant to 37 C.F.R. § 1.97(b)(3), no fee is believed to be due. In the event a fee is due, the Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account No. 08-0219.

Respectfully submitted,

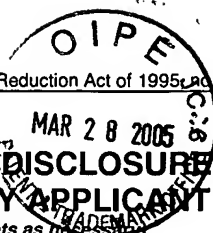
Dated: March 25, 2005



Michael A. Diener
Registration No. 37,122
Attorney for Applicants

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
Tel: (617) 526-6466
Fax: (617) 526-5000

Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO					
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>			Complete if Known		
			Application Number	10/810,962	
			Filing Date	March 26, 2004	
			First Named Inventor	RUECKES et al.	
			Art Unit	2818	
			Examiner Name	TBA	
Sheet	1	of	4	Attorney Docket Number	112020.145YS2 NAN-21

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US 2002/0130311 A1	09-19-2002	LIEBER et al.	
		US 2002/0130353 A1	09-19-2002	LIEBER et al.	
		US 2002/0172963 A1	11-21-2002	KELLEY et al.	
		US 2002/0179434 A1	12-05-2002	DAI et al.	
		US-2003/0021966 A1	01-30-2003	SEGAL et al.	
		US-2003/0124325 A1	07-30-2003	RUECKES et al.	
		US-2003/0165074 A1	09-04-2003	SEGAL et al.	
		US-2003/0234407 A1	12-25-2003	VOGELI et al.	
		US-2003/0236000A1	12-25-2003	VOGELI et al.	
		US-2004/0085805 A1	05-06-2004	SEGAL et al.	
		US-2004/0159833 A1	08-19-2003	RUECKES et al.	
		US-2004/0164289 A1	08-26-2003	RUECKES et al.	
		US-2004/0175856 A1	09-09-2004	JAIPRAKASH et al.	
		US-2004/0181630 A1	09-16-2004	JAIPRAKASH et al.	
		US-2004/0191978 A1	09-30-2004	RUECKES et al.	
		US-2004/0214366 A1	10-28-2004	SEGAL et al.	
		US-2004/0214367 A1	10-28-2004	SEGAL et al.	
		US-2005/0041466 A1	02-24-2005	RUECKES et al.	
		US-2005/0047244 A1	03-03-2005	RUECKES et al.	
		US-2005/0056877 A1	03-17-2005	RUECKES et al.	
		US-6,128,214	10-03-2000	KUEKES et al.	
		US-6,159,620	12-12-2000	HEATH et al.	
		US-6,183,714	02-06-2000	SMALLEY et al.	
		US-6,198,655	03-06-2001	HEATH et al.	
		US-6,221,330 B1	04-24-2001	MOY et al.	
		US-6,232,706	05-15-2001	DAI et al.	
		US-6,445,006	09-03-2002	BRANDES et al.	
		US-6,518,156 B1	02-11-2003	CHEN	
		US-6,559,468 B1	05-06-2003	KUEKES et al.	

Examiner Signature	Date Considered
-----------------------	--------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is established to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Substitute for form 449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	10/810,962
Filing Date	March 26, 2004
First Named Inventor	RUECKES et al.
Art Unit	2818
Examiner Name	TBA
Attorney Docket Number	112020.145YS2 NAN-21

Sheet	2	of	4
-------	---	----	---

	US-6,574,130	09-04-2003	SEGAL et al.	
	US-6,643,165	11-04-2003	SEGAL et al.	
	US-6,673,424 B1	01-06-2004	LINDSAY	
	US-6,706,402	03-16-2004	RUECKES et al.	
	US-6,750,471 B2	06-15-2004	BETHUNE et al.	
	US-6,759,693	07-06-2004	VOGELI et al.	
	US-6,774,052	08-10-2004	VOGELI et al.	
	US-6,781,166 B1	08-24-2004	LIEBER et al.	
	US-6,784,028	08-31-2004	RUECKES et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		WO 01/44796 A1	06-21-2001	Board of Trustees of the Leland Stanford Junior. University.	
		WO 01/03208 A1	01-11-2001	President and Fellows of Harvard College	

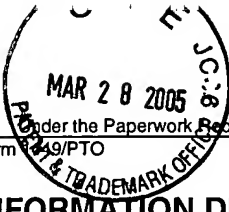
NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, volume- issue number(s), page(s), publisher, city and/or country where published.	T ²
	A1	AJAYAN, P.M., et al., "Nanometre-size tubes of carbon." <i>Rep. Prog. Phys.</i> , 1997, Vol. 60, 1025-1062.	
	A2	AMI, S. et al., "Logic gates and memory cells based on single C ₆₀ electromechanical transistors." <i>Nanotechnology</i> , 2001, Vol. 12, 44-52.	
	A3	AVOURIS, P., "Carbon nanotube electronics," <i>Chem. Physics</i> , 2002, Vol. 281, pp. 429-445.	
	A4	CASAVANT, M.J. et al., "Neat macroscopic membranes of aligned carbon nanotubes." <i>Journal of Appl. Phys.</i> , 2003, Vol. 93(4) 2153-2156.	
	A5	CHOI, W. B. et al., "Carbon-nanotube-based nonvolatile memory with oxide- nitride-film and nanoscale channel." <i>Appl. Phys. Lett.</i> , 2003, Vol. 82(2) 275-277.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is established to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)			Complete if Known		
			Application Number	10/810,962	
			Filing Date	March 26, 2004	
			First Named Inventor	RUECKES et al.	
			Art Unit	2818	
			Examiner Name	TBA	
Sheet	3	of	4	Attorney Docket Number	112020.145YS2 NAN-21

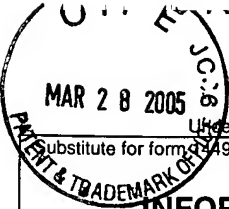
	A6	CUI, J.B. et al., "Carbon Nanotube Memory Devices of High Charge Storage Stability." <i>Appl. Phys. Lett.</i> , 2002, Vol. 81(17) 3260-3262.	
	A7	DAI, H. et al., "Controlled Chemical Routes to Nanotube Architectures, Physics, and Devices." <i>J. Phys. Chem. B</i> , 1999, Vol. 103, 111246-11255.	
	A8	DEHON, A., "Array-Based Architecture for FET-Based, Nanoscale Electronics." <i>IEEE Transactions on Nanotechnology</i> , 2003, Vol. 2(1) 23-32.	
	A9	DEQUESNES, M. et al., "Calculation of pull-in voltages for carbon-nanotube-based nanoelectromechanical switches." <i>Nanotechnology</i> , 2002, Vol. 13, 120-131.	
	A10	DEQUESNES, M. et al., "Simulation of carbon nanotube-based nanoelectromechanical switches." <i>Computational Nanoscience and Nanotechnology</i> , 2002, 383-386.	
	A11	FAN, S. et al., "Carbon nanotube arrays on silicon substrates and their possible application." <i>Physica E</i> , 2000, Vol. 8, 179-183.	
	A12	FARAJIAN, A. A. et al., "Electronic transport through bent carbon nanotubes: Nanoelectromechanical sensors and switches." <i>Phys. Rev. B</i> , 2003, Vol. 67, 205423-1 - 205423-6.	
	A13	FISCHER, J.E. et al., "Magnetically aligned single wall carbon nanotube films: Preferred orientation and anisotropic transport properties." <i>Journal of Appl. Phys.</i> , 2003, Vol. 93(4) 2157-2163.	
	A14	FRANKLIN, N. R. et al., "Integration of suspended carbon nanotube arrays into electronic devices and electromechanical systems." <i>Appl. Phys. Lett.</i> , 2002, Vol. 81(5) 913-915.	
	A15	FUHRER, M.S. et al., "High-Mobility Nanotube Transistor Memory." <i>Nano Letters</i> , 2002, Vol. 2(7) 755-759.	
	A16	HOMMA, Y. et al., "Growth of Suspended Carbon Nanotubes Networks on 100-nm-scale Silicon Pillars." <i>Appl. Phys. Lett.</i> , 2002, Vol. 81(12) 2261-2263.	
	A17	KINARET, J.M. et al., "A carbon-nanotube-based nanorelay", <i>Appl. Phys. Lett.</i> , 2003, Vol. 82(8) 1287-1289.	
	A18	LEE, K.H. et al., "Control of growth orientation for carbon nanotubes." <i>Appl. Phys. Lett.</i> , 2003, 82 (3) 448-450.	
	A19	RADOSAVLJEVIC, M. et al., "Nonvolatile molecular memory elements based on ambipolar nanotube field effect transistors." <i>Nano Letters</i> , 2002, Vol. 2(7) 761-764.	
	A20	ROBINSON, L.A.W., "Self-Aligned Electrodes for Suspended Carbon Nanotube Structures." <i>Microelectronic Engineering</i> , 2003, Vols. 67-68, 615-622.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is established to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

MAR 28 2005



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 2949/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	10/810,962
Filing Date	March 26, 2004
First Named Inventor	RUECKES et al.
Art Unit	2818
Examiner Name	TBA
Attorney Docket Number	112020.145YS2 NAN-21

Sheet	4	of	4
-------	---	----	---

A21	RUECKES, T., et al., "Carbon Nanotube-Based Nonvolatile Random Access Memory for Molecular Computing" <i>Science</i> , 2000, Vol. 289, 94-97.
A22	SOH, H. T. et al., "Integrated nanotube circuits: Controlled growth and ohmic contacting of single-walled carbon nanotubes." <i>Appl. Phys. Lett.</i> , 1999, Vol. 75(5) 627-629.
A23	SREEKUMAR, T.V., et al., "Single-wall Carbon Nanotube Films", <i>Chem. Mater.</i> 2003, Vol. 15, 175-178.
A24	TANS, S. et al., "Room-temperature transistor based on a single carbon nanotube." <i>Nature</i> , 1998, Vol. 393, 49-52.
A25	TOUR, J. M. et al., "NanoCell Electronic Memories." <i>J. Am. Chem Soc.</i> , 2003, Vol. 125, 13279-13283.
A26	VERISSIMO-ALVES, M. et al., "Electromechanical effects in carbon nanotubes: <i>Ab initio</i> and analytical tight-binding calculations." <i>Phys. Rev. B</i> , 2003, Vol. 67, 161401-1 - 161401-4.
A27	WOLF, S., Silicon Processing for the VLSI Era; Volume 2 – Process Integration, Multi-Level-Interconnect Technology for VLSI and ULSI, 1990, Section 4.3 Materials for Multilevel Interconnect Technologies, pp. 189-191, Lattice Press, Sunset Beach
A28	WOLF, S., Silicon Processing for the VLSI Era; Volume 2 – Process Integration, 1990, Section 4.7 Manufacturing Yield and Reliability Issues of VLSI Interconnects, pp. 260-273, Lattice Press, Sunset Beach
A29	ZHAN, W. et al., "Microelectrochemical Logic Circuits." <i>J. Am. Chem. Soc.</i> , 2003, Vol. 125, 9934-9935.

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is established to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.